IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of Wiebe De Haan INCOMPLETE STREAMS Serial No. 09/763,440 Filed: February 21, 2001 Confirmation No. 6259	Group Art Unit: 2616 Examiner: Vincent F. Boccio I hereby certify that this correspondence is being deposited today with the United States Postal Services as first class mail in an envelope addressed to: Mail Stop Appeal Brief-Patent Commissioner for Patents P.O. Box 1450 Alexandria VA. 22313-1450 Name: James D. Leimbach Registration No. 34,374 Date: July 11, 2006

Mail Stop Appeal Brief-Patent
Honorable Commissioner of Patents and Trademarks
Alexandria VA. 22313-1450

Sir:

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Real party in interest

The real party of interest is the Assignee who is U. S. Philips Corporation, a corporation existing under the laws of the State of Delaware (hereinafter Appellant).

Related appeals and interferences

There are no related appeals or interferences to the present application that are known to appellants, the appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of the Claims

Claims 1-14 are drawn to a method and apparatus for recording an encoded bit stream. Claims 1-14 are the claims that are currently being appealed. A copy of appealed claims 1-14 is contained in Appendix III following this brief.

Status of the Amendments After Final

A response was filed subsequent to the final rejection to overcome the examiner's rejection of claims 1-14 under 35 U.S.C. §112, second paragraph, and 35 U.S.C. §102(e). The examiner in an Advisory Action dated February 10, 2006 indicated that the response to the final rejection would not be entered because the amendment contained within the response to the final rejection introduced new issues. The appellant, respectfully, points out that the amendment contained within the response to the final rejection included two new claims that modified the independent claims to be in the form in which they previously existed. Therefore, the rejection of claims 1-14 under 35 U.S.C. §112, second paragraph, and 35 U.S.C. §102(e) stands. Accordingly, the rejections of claims 1-14 under U.S.C. §112, second paragraph, and 35 U.S.C. §102(e) are the rejections that are being appealed.

Summary of the Claimed Subject Matter

The appealed claims define subject matter for a method and apparatus for recording an encoded bit stream representing a plurality of video objects including a sequence of cells together constituting a part of an MPEG2 Program Stream, on a disc like record carrier, such as an optical disc.

Appealed claim 1 defines subject matter for a method of recording an encoded bit stream, said encoded bit stream representing a plurality of video objects comprising a sequence of cells together constituting a part of an MPEG2 Program Stream, on a disc like record carrier, such as an optical disc (see Abstract), the method including recording video objects (as discussed in the specification on page 9, line 15-page 11, line 31) including a sequence of contiguously recorded cells (as discussed in the specification on page 9, lines 27-33), each cell comprising a unique cell identification number within a video object (as discussed in the specification on page 10, lines 12-13).

Appealed claim 1 further defines subject matter for recording a playback sequence of cells defining a playable program chain of cells, wherein the sequence comprises references to the cell identification numbers (see specification page 5, lines 20-25 and Abstract),

Appealed claim 1 further defines subject matter for recording navigation data within said cells comprising an end time of presentation of the corresponding video object (as discussed in the specification on page 10, lines 18-22).

Appealed claim 1 further defines subject matter for recording at the end of a video object a buffer cell that is not being referenced by a playback sequence (see specification page 9, line 32; page 10, lines 18-22 and lines 32-33; and Abstract).

Appealed claim 8 defines subject matter for a recording apparatus (as shown in Figure 7 and described in the specification on page 5, lines 27-34) for recording an encoded bit stream, representing a plurality of video objects including a sequence of cells together constituting a part of an MPEG2 Program Stream, on a disc like record carrier, such as an optical disc (see Abstract), the recording apparatus having recording means (as shown in Figure 11 and described in the specification on page 6, line 24-page 7, line 6) adapted to record a sequence of contiguously recorded cells (as discussed in the specification on page 9, lines 27-33), each cell comprising a unique cell identification number within a video object (as discussed in the

specification on page 10, lines 12-13).

Appealed claim 8 further defines subject matter for a playback sequence of cells defining a playable program chain of cells, wherein said sequence comprises references to the cell identification numbers (see specification page 5, lines 20-25 and Abstract).

Appealed claim 8 further defines subject matter for navigation data within the cells including an end time of presentation of the corresponding video object (as discussed in the specification on page 10, lines 18-22).

The recording apparatus defined by appealed claim 8 further includes system control means (as shown in Figure 11 and described in the specification on page 7, lines 7-13) adapted to control the recordings means to record at the end of a video object a buffer cell that is not being referenced by a playback sequence (see specification page 9, line 32; page 10, lines 18-22 and lines 32-33; and Abstract).

Appealed claim 9 define subject matter for a recording apparatus according to appealed claim 8, characterized in that, the system control means are adapted to assign an unique cell identification number to the buffer cell for recording (see specification page 3, lines 30-32; page 7, lines 7-13; and Abstract).

Appealed claim 10 defines subject matter for the recording apparatus according to appealed claim 8, characterized in that, the system control means are adapted to assign a cell identification number to the buffer cell for recording that differs from the identification number from the preceding cell (see specification page 10, lines 12-13).

Appealed claim 11 defines subject matter for the recording apparatus according to appealed claim 10, characterized in that, the system control means are adapted to control the recording means to record a buffer cell that may not be filled completely (as described in the specification on page 4, line 24-page 5, line 5).

Grounds of Rejection to be Reviewed on Appeal

The Advisory Action dated February 10, 2006 indicated that the rejections to claim 1-14 stand. Claims 1-14 are the appealed claims. Appealed claims 7 and 14 are rejected under the provisions of 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim subject matter of invention. Specifically, appealed

claims 7 and 14 are rejected for containing a recitation that the buffer cell comprises only a Navigation pack. Appealed claims 1-6 and 8-13 are rejected under the provisions of 35 U.S.C. §102(e) has been anticipated by U.S. Patent No. 6,577,812 issued in the name of Kikuchi et al. (hereinafter referred to as *Kikuchi et al.*).

Argument

I. The rejection of appealed claims 7 and 14 under the provisions of 35 U.S.C. §112, second paragraph, as being indefinite for failing to distinctly claim and particularly point out invention

The MPEP at §2171 states hat there are two separate requirements for claims under 35 U.S.C. 112, second paragraph. The second paragraph of 35 U.S.C. 112 is directed to requirements for the claims: The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention. There are two separate requirements set forth in this paragraph: (A) the claims must set forth the subject matter that applicants regard as their invention; and (B) the claims must particularly point out and distinctly define the metes and bounds of the subject matter that will be protected by the patent grant.

The first requirement is a subjective one because it is dependent on what the applicants for a patent regard as their invention. The second requirement is an objective one because it is not dependent on the views of applicant or any particular individual, but is evaluated in the context of whether the claim is definite - i.e., whether the scope of the claim is clear to a hypothetical person possessing the ordinary level of skill in the pertinent art.

Appealed claims 7 and 14

Appealed claims 7 and 14 define subject matter for the buffer cell including only a Navigation Pack (NV-PCK) according to the DVD Read Only Video Specification. The examiner's position is that the specification to the present invention allegedly states that all dummy (buffer) cells have at least some dummy data. It should be noted that the examiner does not indicate where this allegation is made within the specification. The appellant, respectfully, points out that this allegation is a false statement. There is no statement within the specification

to the present invention that all dummy (buffer) cells have at least some dummy data. The Buffer cell is defined on page 3, lines 29-32 as the last cell of a Video Object containing only one Video Object Unit. The specification on page 10, lines 14-15 states that Video Objects and cells contain Navigation packs. Therefore, the Buffer Cell contains a Navigation pack. The specification on page 10, lines 18-22 states that Navigation packs contain a parameter specifying the presentation termination time of the last video frame of the Video Object, that a high number will be recorded for this parameter and that a Buffer Cell at the end of a Video Object guarantees that the end of a Video Object is never reached during play back. The appellant asserts that the scope of the appealed claims 7 and 14 would be clear to person possessing an ordinary level of skill in the art and that it would be abundantly clear that the buffer cell may include only a Navigation Pack (NV-PCK) according to the DVD Read Only Video Specification.

II. The rejection of appealed claims 1-6 and 8-13 under the provisions of 35 U.S.C. §102(e) as being anticipated via over *Kikuchi et al.*

A. The rejection under 35 U.S.C. S 102(e)

Appealed claims 1-6 and 8-13 stand rejected under the provisions of 35 U.S.C. §102(e) as being anticipated by *Kikuchi et al.* (U.S. Patent No. 6,577,812). The examiner's position is that *Kikuchi et al.* disclose each of the elements defined by appealed claims 1-6 and 8-13.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

B. The reference

Kikuchi et al. (U.S. Patent No. 6,577,812) relates to a digital recording system using a variable recording rate (see Title). *Kikuchi et al.* teach an erase prohibition setting in accordance with an instruction. If the range is not set in units of cells of the current cell, the current cell is divided by a cell separator to set a sequence of advanced cells. A reconstruction

part reconstructs management information for playing back the advanced cells and current cell, and appends erase prohibition information to the management information for playing back the advanced cells that belong to the range (see Abstract).

Figure 9 of *Kikuchi et al.* clearly illustrates the sequence packs within the VOBU as being a Navigation Pack 86, a Video Pack 88, a Video Pack 88, a Dummy Pack 89, a Sub-picture Pack 90 and an Audio Pack 91. This is a repetitive sequence. It should be noted that an Audio Pack is recorded at the end of a cell 84 and not a Dummy Pack 89 as taught by *Kikuchi et al.* There is no disclosure or suggestion that the video object as taught by *Kikuchi et al.* includes a dummy cell at the end of a video object. It should further be noted that there is no disclosure or suggestion within *Kikuchi et al.* recording a dummy cell that is not being referenced by a playback sequence. In fact *Kikuchi et al.* specifically describes the dummy packs taught therein as being wildcard packs that can become any of an audio, sub-picture, and video packs depending on its purpose.

The description to Fig. 9 beginning on col. 14, lines 66-67 of *Kikuchi et al.* states that:

> Each dummy pack 89 can be used for recording edit data later.

The above clearly indicates that the dummy pack is being used to edit recording data wherein it most certainly becomes part of the playback sequence.

The description to Fig. 12 beginning on col. 16, line 58 of *Kikuchi et al.* states that:

> FIG. 12 shows the structure for one dummy pack shown in FIG. 10. That is, one dummy pack 89 is made up of pack header 891, packet header 892 with a predetermined stream ID, and padding data 893 padded with a predetermined code. (Packet data 892 and padding data 893 form padding packet 890). The contents of padding data 893 in a non-used dummy pack are not especially significant. This dummy pack 89 can be appropriately used when the recording contents are to be edited after predetermined recording is done on disc 10 shown in FIG. 2.

The above clearly indicates that the dummy pack is being used to edit recording data wherein it most certainly becomes part of the playback sequence.

It is further stated beginning at col. 17, line 17 of *Kikuchi et al.* that:

> After the contents of the video tape are edited and recorded on disc 10, when a voice, effect sound, and the like are to be postrecorded (or after-recorded) in each scene in units of VOBU or a background music (BGM) is added, such postrecording (or after-recording) audio data or BGM can be recorded in dummy pack 89. When a comment for the recorded contents is to be added, sub-pictures such as additional characters, figures, and the like can be recorded in dummy pack 89. Furthermore, when an additional video picture is to be inserted, the inserted video picture can be recorded in dummy pack 89.
>
> The above-mentioned postrecording (or after-recording) audio data or the like is written in padding data 893 of dummy pack 89 used as an audio pack. The additional comment is written in padding data 893 of dummy pack 89 used as a sub-picture pack. Similarly, the inserted video picture is written in padding data 893 of dummy pack 89 used as a video pack.
>
> Incidentally, when the postrecording (after-recording) is predetermined, silent audio data coded in the same manner as the original audio data can be written in the dummy pack. In this case, the original audio data may be recorded as a first steam, and the silent audio data may be recorded as a second steam
>
> More specifically, dummy pack 89 is a wildcard pack that can become any of an audio, sub-picture, and video packs depending on its purpose

The above clearly indicates that the dummy pack is being used to edit recording data wherein it most certainly becomes part of the playback sequence.

Kikuchi et al. teach using Dummy Pack 89 for editing purposes which then clearly becomes part of the playback sequence.

There is no disclosure or suggestion within *Kikuchi et al.* recording a dummy cell at the end of a video object a dummy cell that is not being referenced by a playback sequence. There is further no disclosure or suggestion within *Kikuchi et al.* recording a dummy cell at the end of a video object, and there is no disclosure or suggestion within *Kikuchi et al.* for a dummy cell that is not being referenced by a playback sequence.

C. <u>The differences between the invention and the reference</u>

The appellant asserts that the video object as taught by *Kikuchi et al.* does not disclose or suggest a dummy cell at the end of a video object. A Buffer Cell as taught by the present invention is the last cell of the video object containing just one Video Object Unit (VOBU). The Buffer Cell is not used by any Program Chain (see specification to the present invention on page 3, lines 30-33). Therefore, this "dummy" cell is quite literally at the end of the video object. Figure 9 of *Kikuchi et al.* clearly illustrates the sequence packs within the VOBU as being a Navigation Pack 86, a Video Pack 88, a Video Pack 88, a Dummy Pack 89, a Sub-picture Pack 90 and an Audio Pack 91. This is a repetitive sequence. Therefore, an Audio Pack is recorded at the end of a cell 84 and not a Dummy Pack 89 as taught by *Kikuchi et al.*

The appellant asserts that there is no disclosure or suggestion within *Kikuchi et al.* recording a dummy cell that is not being referenced by a playback sequence. In fact *Kikuchi et al.* specifically describes the dummy packs taught therein as being wildcard packs that can become any of an audio, sub-picture, and video packs depending on its purpose.

The description on col. 14, lines 66-67 of *Kikuchi et al.* clearly states that each dummy pack 89 can be used for recording edit data later. Clearly indicating that the dummy pack is being used to edit recording data wherein it most certainly becomes part of the playback sequence.

The description on col. 16, line 58 of *Kikuchi et al.* clearly states that FIG. 12 shows the structure for one dummy pack shown in FIG. 10. That is, one dummy pack 89 is made up of pack header 891, packet header 892 with a predetermined stream ID, and padding data 893 padded with a predetermined code. (Packet data 892 and padding data 893 form padding packet 890). The contents of padding data 893 in a non-used dummy pack are not especially significant. This dummy pack 89 can be appropriately used when the recording contents are to be edited after predetermined recording is done on disc 10 shown in FIG. 2. The foregoing clearly indicates that the dummy pack is being used to edit recording data wherein it most certainly becomes part of the playback sequence.

It is further stated beginning at col. 17, line 17 of *Kikuchi et al.* that after the contents of the video tape are edited and recorded on disc 10, when a voice, effect sound, and the like are to be postrecorded (or after-recorded) in each scene in units of VOBU or a background music (BGM) is added, such postrecording (or after-recording) audio data or BGM can be

recorded in dummy pack 89. When a comment for the recorded contents is to be added, sub-pictures such as additional characters, figures, and the like can be recorded in dummy pack 89. Furthermore, when an additional video picture is to be inserted, the inserted video picture can be recorded in dummy pack 89. The above-mentioned postrecording (or after-recording) audio data or the like is written in padding data 893 of dummy pack 89 used as an audio pack. The additional comment is written in padding data 893 of dummy pack 89 used as a sub-picture pack. Similarly, the inserted video picture is written in padding data 893 of dummy pack 89 used as a video pack. When the postrecording (after-recording) is predetermined, silent audio data coded in the same manner as the original audio data can be written in the dummy pack. In this case, the original audio data may be recorded as a first steam, and the silent audio data may be recorded as a second steam. More specifically, dummy pack 89 is a wildcard pack that can become any of an audio, sub-picture, and video packs depending on its purpose. The foregoing clearly indicates that the dummy pack is being used to edit recording data wherein it most certainly becomes part of the playback sequence.

Kikuchi et al. teach using Dummy Pack 89 for editing purposes which then clearly becomes part of the playback sequence.

Appealed claim 1

Appealed claim 1 defines subject matter for a method of recording an encoded bit stream, said encoded bit stream representing a plurality of video objects comprising a sequence of cells together constituting a part of an MPEG2 Program Stream, on a disc like record carrier, such as an optical disc, the method including: recording video objects comprising a sequence of contiguously recorded cells, each cell comprising a unique cell identification number within a video object; recording a playback sequence of cells defining a playable program chain of cells, wherein said sequence comprises references to the cell identification numbers, recording navigation data within said cells comprising an end time of presentation of the corresponding video object, characterized by, recording at the end of a video object a buffer cell that is not being referenced by a playback sequence. There is no disclosure or suggestion within *Kikuchi et al.* for recording at the end of a video object a buffer cell that is not being referenced by a playback sequence.

Appealed claim 2

Appealed claim 2 defines subject matter for the method of appealed claim 1, characterized by, assigning an unique cell identification number to the buffer cell. There is no disclosure or suggestion within *Kikuchi et al.* for subject matter of appealed claim 1, characterized by, assigning an unique cell identification number to the buffer cell.

Appealed claim 3

Appealed claim 3 defines subject matter for the method of appealed claim 1, characterized by, assigning a cell identification number to said buffer cell that differs from the identification number from the preceding cell. There is no disclosure or suggestion within *Kikuchi et al.* for subject matter of appealed claim 1, characterized by, assigning a cell identification number to said buffer cell that differs from the identification number from the preceding cell.

Appealed claim 4

Appealed claim 4 defines subject matter for the method of appealed claim 2, characterized by, wherein said buffer cell may not be filled completely. There is no disclosure or suggestion within *Kikuchi et al.* for subject matter of appealed claim 2, wherein said buffer cell may not be filled completely.

Appealed claim 5

Appealed claim 5 defines subject matter for the method of appealed claim 4, characterized by, wherein a cell, video object, a playback sequence, and end time of presentation corresponds respectively to a Cell, a Video Object (VOB), a Program Chain (PGC) and a Video Object Video End Presentation Time (VOB-VPTM) of the DVD Read Only Video Specification. There is no disclosure or suggestion within *Kikuchi et al.* for subject matter of appealed claim 4, wherein a cell, video object, a playback sequence, and end time of presentation corresponds respectively to a Cell, a Video Object (VOB), a Program Chain (PGC) and a Video Object Video End Presentation Time (VOB-VPTM) of the DVD Read Only Video Specification.

Appealed claim 6

Appealed claim 6 defines subject matter for the method of appealed claim 5, wherein a dummy cell comprises only a Video Object Unit (VOBU) according to the DVD Read Only Video Specification. There is no disclosure or suggestion within *Kikuchi et al.* for subject matter of appealed claim 5, wherein a dummy cell comprises only a Video Object Unit (VOBU) according to the DVD Read Only Video Specification.

Appealed claim 8

Appealed claim 8 defines subject matter for a recording apparatus for recording an encoded bit stream, representing a plurality of video objects including a sequence of cells together constituting a part of an MPEG2 Program Stream, on a disc like record carrier, such as an optical disc, the recording apparatus comprises recording means adapted to record a sequence of contiguously recorded cells, each cell comprising a unique cell identification number within a video object, a playback sequence of cells defining a playable program chain of cells, wherein said sequence comprises references to the cell identification numbers, navigation data within said cells comprising an end time of presentation of the corresponding video object, characterized in that, the recording apparatus includes system control means adapted to control the recordings means to record at the end of a video object a buffer cell that is not being referenced by a playback sequence. There is no disclosure or suggestion within *Kikuchi et al.* for the recording apparatus includes system control means adapted to control the recordings means to record at the end of a video object a buffer cell that is not being referenced by a playback sequence.

Appealed claim 9

Appealed claim 9 defines subject matter for the apparatus of appealed claim 8, characterized by, assigning an unique cell identification number to the buffer cell. There is no disclosure or suggestion within *Kikuchi et al.* for subject matter of appealed claim 8, characterized by, assigning an unique cell identification number to the buffer cell.

Appealed claim 10

Appealed claim 10 defines subject matter for the apparatus of appealed claim 8, characterized by, assigning a cell identification number to said buffer cell that differs from the

identification number from the preceding cell. There is no disclosure or suggestion within *Kikuchi et al.* for subject matter of appealed claim 8, characterized by, assigning a cell identification number to said buffer cell that differs from the identification number from the preceding cell.

Appealed claim 11

Appealed claim 11 defines subject matter for the apparatus of appealed claim 10, characterized by, wherein said buffer cell may not be filled completely. There is no disclosure or suggestion within *Kikuchi et al.* for subject matter of appealed claim 10, wherein said buffer cell may not be filled completely.

Appealed claim 12

Appealed claim 12 defines subject matter for the apparatus of appealed claim 11, characterized by, wherein a cell, video object, a playback sequence, and end time of presentation corresponds respectively to a Cell, a Video Object (VOB), a Program Chain (PGC) and a Video Object Video End Presentation Time (VOB-VPTM) of the DVD Read Only Video Specification. There is no disclosure or suggestion within *Kikuchi et al.* for subject matter of appealed claim 11, wherein a cell, video object, a playback sequence, and end time of presentation corresponds respectively to a Cell, a Video Object (VOB), a Program Chain (PGC) and a Video Object Video End Presentation Time (VOB-VPTM) of the DVD Read Only Video Specification.

Appealed claim 13

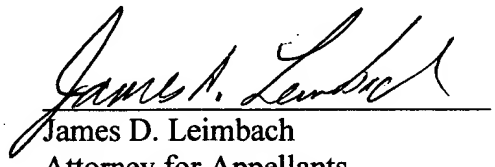
Appealed claim 13 defines subject matter for the aparatus of appealed claim 12, wherein a dummy cell comprises only a Video Object Unit (VOBU) according to the DVD Read Only Video Specification. There is no disclosure or suggestion within *Kikuchi et al.* for subject matter of appealed claim 12, wherein a dummy cell comprises only a Video Object Unit (VOBU) according to the DVD Read Only Video Specification.

Conclusion

In summary, the examiner's rejections of the claims are believed to be in error for the reasons explained above. The rejections of each of claims 1-14 should be reversed.

The Commissioner is authorized to charge fees associated with the filing of this brief to Account No. 50-3745 including any underpayments, excluding the payment of any issue fees, and to credit any overpayments to the same account.

Respectfully submitted,



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APPENDIX I. Evidence on Appeal

"None"

APPENDIX II. Related Proceedings

"None"

APPENDIX III. Claims on Appeal

1. A method of recording an encoded bit stream, said encoded bit stream representing a plurality of video objects comprising a sequence of cells together constituting a part of an MPEG2 Program Stream, on a disc like record carrier, such as an optical disc, said method comprising:

recording video objects comprising a sequence of contiguously recorded cells, each cell comprising a unique cell identification number within a video object;

recording a playback sequence of cells defining a playable program chain of cells, wherein said sequence comprises references to the cell identification numbers,

recording navigation data within said cells comprising an end time of presentation of the corresponding video object,

characterized by,

recording at the end of a video object a buffer cell that is not being referenced by a playback sequence.

2. A method according to claim 1, characterized by,

assigning an unique cell identification number to said buffer cell.

3. A method according to claim 1, characterized by,

assigning a cell identification number to said buffer cell that differs from the identification number from the preceding cell.

4. A method according to claim 2, wherein said buffer cell may not be filled completely.

5. A method according to claim 4, wherein a cell, video object, a playback sequence, and end time of presentation corresponds respectively to a Cell, a Video Object (VOB), a Program Chain (PGC) and a Video Object Video End Presentation Time (VOB-VPTM) of the DVD Read Only Video Specification.

6. A method according to claim 5, wherein a dummy cell comprises only a Video Object Unit (VOBU) according to the DVD Read Only Video Specification.

7. A method according to claim 5, wherein a buffer cell comprises only a Navigation Pack (NV-PCK) according to the DVD Read Only Video Specification.

8. A recording apparatus for recording an encoded bit stream, representing a plurality of video objects comprising a sequence of cells together constituting a part of an MPEG2 Program Stream, on a disc like record carrier, such as an optical disc, the recording apparatus comprises recording means adapted to record

a sequence of contiguously recorded cells, each cell comprising a unique cell identification number within a video object,

a playback sequence of cells defining a playable program chain of cells, wherein said sequence comprises references to the cell identification numbers,

navigation data within said cells comprising an end time of presentation of the corresponding video object,

characterized in that, the recording apparatus comprises

system control means adapted to control the recordings means to record at the end of a video object a buffer cell that is not being referenced by a playback sequence.

9. A recording apparatus according to claim 8, characterized in that, the system control means are adapted to assign an unique cell identification number to said buffer cell for recording.

10. A recording apparatus according to claim 8, characterized in that, the system control means are adapted to assign a cell identification number to said buffer cell for recording that differs from the identification number from the preceding cell.

11. A recording apparatus according to claim 10, characterized in that, the system control means are adapted to control the recording means to record a buffer cell that may not be filled completely.

12. A recording apparatus according to claim 11 wherein a cell, video object, a playback sequence, and end time of presentation corresponds respectively to a Cell, a Video Object (VOB), a Program Chain (PGC) and a Video Object Video End Presentation Time (VOB-V-

PTM) of the DVD Read Only Video Specification.

13. A recording apparatus according to claim 12, wherein a buffer cell comprises only a Video Object Unit (VOBU) according to the DVD Read Only Video Specification.

14. A recording apparatus according to claim 13, wherein a buffer cell comprises only a Navigation Pack (NV-PCK) according to the DVD Read Only Video Specification.